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**TITLE 327 WATER POLLUTION CONTROL BOARD****FIRST NOTICE OF COMMENT PERIOD**

LSA Document #11-320

**DEVELOPMENT OF RULE AMENDMENTS CONCERNING THE WATER QUALITY STANDARDS FOR CHLORIDE AND SULFATE****PURPOSE OF NOTICE**

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on an amendment to [327 IAC 2-1-6](#) and [327 IAC 2-1.5-8](#) concerning the surface water quality standard for chloride and an amendment to [327 IAC 2-1-6](#) concerning the sulfate water quality standard because the sulfate criteria are influenced by chloride concentrations. IDEM seeks comment on the affected citations listed and any other provisions of Title 327 including [327 IAC 2-1.5-8](#) Table 8-9 (additional criteria for the open waters of Lake Michigan) that may be affected by this rulemaking.

**CITATIONS AFFECTED:** [327 IAC 2-1-6](#); [327 IAC 2-1.5-8](#).

**AUTHORITY:** [IC 13-14-9](#); [IC 13-18-3](#).

**SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING****Basic Purpose and Background**

IDEM adopted water quality standards, including the minimum surface water quality standard for chloride currently in [327 IAC 2-1-6](#) and [327 IAC 2-1.5-8](#), in the late 1980s based on standards developed by U.S. Environmental Protection Agency (U.S. EPA). The data used by U.S. EPA to establish the chloride standard is now outdated, and EPA has indicated that the water quality criteria for chloride should be reviewed and modified if appropriate.

Recent toxicity studies commissioned by the Iowa Department of Natural Resources (IDNR) in conjunction with the U.S. EPA indicate that water chemistry parameters such as hardness and sulfate influence the toxicity of chlorides to aquatic life. These studies resulted in the development of chloride criteria that would better protect aquatic life. IDEM is initiating rulemaking to amend Indiana's current surface water quality criteria for chlorides with U.S. EPA approved criteria adopted by IDNR in 2010. The sulfate standard in [327 IAC 2-1-6](#) will also be amended because sulfate criteria are expressed as a function of chloride concentration which is currently capped at the chronic criterion of 230 mg/L.

**Alternatives to Be Considered Within the Rulemaking****Alternative 1.**

Rulemaking is the only option available for the revision of the acute and chronic aquatic life chloride criteria in [327 IAC 2-1-6](#) and [327 IAC 2-1.5-8](#). IDEM is proposing to replace the current criteria with equations developed by the IDNR based on results from the commissioned studies. The equations will allow the chloride criterion to vary depending on the hardness and sulfate concentrations in a water body.

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? No.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

**Alternative 2.**

The alternative to create a streamlined chloride variance (the ability to pursue a variance already exists in Title 327) would make the variance process less time intensive for the discharger but would not change the fact that the current chloride water quality standard in Indiana regulations is not based on recent studies that indicate that chloride toxicity is influenced by hardness and sulfate.

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? No.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

**Alternative 3.**

The option of the No Action alternative will result in the continuation of Indiana's rules containing an outdated chloride standard that is not reflective of the most recent science concerning chlorides in surface waters. This alternative is not acceptable.

- Is this alternative an incorporation of federal standards, either by reference or full text incorporation? No.
- Is this alternative imposed by federal law or is there a comparable federal law? No.
- If it is a federal requirement, is it different from federal law? Not applicable.
- If it is different, describe the differences. Not applicable.

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**Applicable Federal Law**

The applicable federal law is the Clean Water Act, which requires states with delegated water quality programs to establish water quality standards. Indiana is a delegated state to conduct the federal water quality program within Indiana, including issuance of National Pollutant Discharge Elimination System (NPDES) permits containing discharge limits on pollutants such as chloride.

**Potential Fiscal Impact**

IDEM does not anticipate any new costs to the state or regulated entities as a result of these revisions. In most instances, chronic aquatic life chloride criteria calculated using the proposed equations will be less stringent than the 230 mg/L criterion currently in [327 IAC 2-1-6](#) and [327 IAC 2-1.5-8](#). However, acute aquatic life criteria calculated using the proposed equations will be more stringent than the 860 mg/L criterion currently in [327 IAC 2-1-6](#) and [327 IAC 2-1.5-8](#).

The number of NPDES regulated facilities expected to be impacted by this rulemaking is an approximation based on the currently issued permits to 69 industrial and 18 municipal facilities that currently have either limits or monitoring requirements for chloride. These facilities include municipal wastewater treatment plants of all treatment types and sizes, certain municipal drinking water treatment plants, and industries such as ethanol producers, certain food processors, canneries, and industries that discharge cooling water.

A unique aspect to the issue of chloride toxicity is that it is dependent on hardness and sulfate (and, conversely, sulfate toxicity is dependent on hardness and chloride). In general, the harder the water, the less toxic chloride and sulfate are to aquatic life. In addition to sampling and analyzing for chloride by dischargers with permit limits, they will also need to sample and analyze for sulfate if they are not already doing so under their NPDES permits. These samples analyzed in a certified laboratory typically cost \$18 per sample (Iowa fiscal analysis of chloride rulemaking, 2009).

The lack of cost effective treatment techniques available to remove chloride creates a dilemma for compliance. However, other solutions are available to help facilities address chloride and sulfate pollution issues. The most common process used in states across the country to reduce chloride and sulfate levels in wastewater effluent is to utilize an array of source reduction options, primarily associated with water softening. Source reduction is accomplished in several ways, including, but not limited to:

- Modified operation of home water softeners by minimizing salt usage
- Removal of home water softeners
- Exchange tank home water softeners
- Soften water where needed aka "feed softened water"
- Removal or replacement of centralized ion exchange
- Best management practices (BMPs) where solid salt is used to prevent it from being washed down the drain (for example, food processing businesses and INDOT truck washing operations)
- Removal of chlorine contributions to the waste stream or effluent (for example, chlorine bleach, disinfection processes via chlorination)

Options such as minimizing home water softener use, removal of water softeners, and using softened water at points where necessary can actually save money immediately or in the long run depending on how these options are implemented. Exchange tank softening is more expensive than traditional home water softening. Generally speaking, there is not an expected direct or high cost for BMPs to keep solid salt out of sewer drains. Removal or replacement of centralized ion exchange water softening for municipalities can be costly and is considered a last resort if it is identified as the main source of the chloride or sulfate in the effluent entering surface waters. The sources of chloride may vary dramatically from town to town or industry to industry depending on several factors including, but not limited to:

**Municipalities:**

- The use of home water softening
- Drinking water treatment plant backwash
- Industrial contributors
- Centralized ion-exchange softening
- Source water

**Industries:**

- Industry type (for example, ethanol, power plants, car washes, food processors, etc.)
- Processes that utilize salt
- Source water
- Use of softened water
- Closed loop or open loop cooling water
- Brine recovery

**Small Business Assistance Information**

IDEM established a compliance and technical assistance (CTAP) program under [IC 13-28-3](#). The program provides assistance to small businesses and information regarding compliance with environmental regulations. In accordance with [IC 13-28-3](#) and [IC 13-28-5](#), there is a small business assistance program ombudsman to provide

a point of contact for small businesses affected by environmental regulations. Information on the CTAP program, the monthly CTAP newsletter, and other resources available can be found at:

[www.in.gov/idem/ctap](http://www.in.gov/idem/ctap)

For purposes of [IC 4-22-2-28.1](#), the Small Business Regulatory Coordinator for this rule is:

Alison Beumer  
IDEM Compliance and Technical Assistance Program - OPPTA  
MC 60-04 IGCS W041  
100 North Senate Avenue  
Indianapolis, IN 46204-2251  
(317) 232-8172 or (800) 988-7901  
[ctap@idem.in.gov](mailto:ctap@idem.in.gov)

For purposes of [IC 4-22-2-28.1](#), the Small Business Ombudsman designated by [IC 5-28-17-5](#) is:

Ryan Asberry  
Indiana Economic Development Corporation  
One North Capitol, Suite 700  
Indianapolis, IN 46204  
(317) 232-8962  
[smallbizombudsman@iedc.in.gov](mailto:smallbizombudsman@iedc.in.gov)

Resources available to regulated entities through the small business ombudsman include the ombudsman's duties stated in [IC 5-28-17-5](#), specifically [IC 5-28-17-5\(9\)](#), investigating and attempting to resolve any matter regarding compliance by a small business with a law, rule, or policy administered by a state agency, either as a party to a proceeding or as a mediator.

The Small Business Assistance Program Ombudsman is:

Brad Baughn  
IDEM Small Business Assistance Program Ombudsman  
MC 50-01 IGCN 1307  
100 North Senate Avenue  
Indianapolis, IN 46204-2251  
(317) 234-3386  
[bbaughn@idem.in.gov](mailto:bbaughn@idem.in.gov)

#### **Public Participation and Workgroup Information**

If you feel that a workgroup or other informal discussion on the rule is appropriate, please contact please contact MaryAnn Stevens in the Office of Legal Counsel, Rules Development Branch at (317) 232-8635 or (800) 451-6027 (in Indiana). Please provide your name, phone number, and e-mail address, if applicable, where you can be contacted.

#### **STATUTORY AND REGULATORY REQUIREMENTS**

[IC 13-14-8-4](#) requires the board to consider the following factors in promulgating rules:

- (1) All existing physical conditions and the character of the area affected.
- (2) Past, present, and probable future uses of the area, including the character of the uses of surrounding areas.
- (3) Zoning classifications.
- (4) The nature of the existing air quality or existing water quality, as the case may be.
- (5) Technical feasibility, including the quality conditions that could reasonably be achieved through coordinated control of all factors affecting the quality.
- (6) Economic reasonableness of measuring or reducing any particular type of pollution.
- (7) The right of all persons to an environment sufficiently uncontaminated as not to be injurious to human, plant, animal, or aquatic life or to the reasonable enjoyment of life and property.

#### **REQUEST FOR PUBLIC COMMENTS**

At this time, IDEM solicits the following:

- (1) The submission of alternative ways to achieve the purpose of the rule.
- (2) The submission of suggestions for the development of draft rule language.

Mailed comments should be addressed to:

#11-320 (chloride amendment)  
MaryAnn Stevens  
Mail Code 65-41  
Rules Development Branch  
Office of Legal Counsel  
Indiana Department of Environmental Management

100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

Hand delivered comments will be accepted by the receptionist on duty at the thirteenth floor reception desk, Office of Legal Counsel, Indiana Government Center North, 100 North Senate Avenue, Room N1315, Indianapolis, Indiana. Comments also may be submitted by facsimile to (317) 233-5970. Please confirm the timely receipt of faxed comments by calling the Rules Development Branch at (317) 233-8903. Please note it is not necessary to follow a faxed comment letter with a copy of the letter submitted through the postal system.

**COMMENT PERIOD DEADLINE**

Comments must be postmarked, faxed, or hand delivered by July 1, 2011.

Additional information regarding the NPDES program and discharge permit limits for chlorides may be obtained from John Elliott, Permits Branch, Office of Water Quality, (317) 233-0703 or (800) 451-6027. Information regarding the chloride toxicity studies commissioned by the Iowa DNR may be obtained from Ms. Shivi Selvaratnam, Ph.D., Water Quality Standards Program Coordinator, Office of Water Quality, (317) 308-3088 or (317) 234-7914. Additional information regarding this rulemaking action may be obtained from MaryAnn Stevens, Rules Section, Office of Water Quality, (317) 232-8635 or (800) 451-6027 (in Indiana).

Nancy King, Chief  
Rules Development Branch  
Office of Legal Counsel

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